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ABSTRACT

This research brief highlights current and projected economic trends that affect higher education and discusses some of their implications. The brief is organized into three sections: (1) national economic conditions affecting higher education, which presents data on gross national product, inflation, the Higher Education Price Index, the federal budget, and federal and state appropriations for postsecondary education; (2) the ability to pay for college, which presents data on student financial aid, family income, and disposable income and savings; and (3) future labor market trends, which presents data on participation in the labor force, and labor market shares of women and minorities. Analysis of these trends implies that the future will be marked by the opportunity for growth coupled with fiscal constraints. The brief concludes with descriptions of five data resources and a bibliography of 20 items. (JDD)

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Economic Trends and Higher Education

Cecilia A. Ottinger

The 1990s are a time for preparing our nation for the 21st century. If the United States is to be competitive on all fronts, in the global market, all of its major institutions must understand the major trends affecting their role in the national economy.

Education is a key component of the nation's success in the global economy. As noted by Robert Reich, "in the emerging economy of the 21st century, only one asset is growing more valuable as it is used: the problem-solving, problem-identifying, and strategic brokering skills of a nation's citizens" (Reich, 1991). These are the skills held by an educated workforce and gained most particularly through higher education.

Colleges and universities are key in the development of the human resources and the skills necessary for the U.S. to compete in the global economy. Yet the status of the academy is also affected by trends in the economy.

In preparing for the 21st century, higher education administrators must monitor economic trends and projections. This will allow them to be aware of the challenges higher education will need to address now and in the future. In addition, economic trends will help the higher education enterprise respond to the changing educational needs of society.

This research brief highlights current and projected economic trends that affect higher education and discusses some of their implications. This brief is organized into three sections:

- national economic conditions affecting higher education;
- the ability to pay for college; and
- future labor market trends.

Together, these trends comprise some of the most important economic issues affecting the current and future status of higher education institutions.

HIGHLIGHTS AND IMPLICATIONS

- The federal deficit is escalating, in FY 1991 it stood at $269 billion and is expected to reach $399 billion by FY 1992. The increased deficit will probably limit funding for new and current programs.
- Between 1990 and 2005, the GNP is projected to grow at an annual rate of 2.3 percent; in comparison, between 1975 and 1990, the annual rate of growth was 2.9 percent.
- In 1990, according to the Higher Education Price Index, colleges and universities paid 41 percent more for goods and services than they did in 1983.
- In FY 1991, education comprised 2.5 percent of discretionary spending and declined to an estimated 1.8 percent in FY 1992.

Higher education appropriations are losing ground at the federal and state levels. At these levels of government higher education may continue experiencing competition with other social priorities (e.g., health care) for funding.

- During the decade 1980 and 1990, federal appropriations for postsecondary education held stable at $26 billion.
- State appropriations for higher education have declined. Between FY 1991 and 1992, the average budget increase for higher education was 1.4 percent, below the 3.1 percent change in inflation.

Low-and middle-income families' share of aggregate income declined in the 1980s; furthermore, people save less of their income today than a

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decade ago. These trends indicate that it may be harder for families to afford college for their children.

- During the decade 1980 to 1990, middle income families' share of aggregate income declined from 52 percent to 50 percent.

Women and minorities are expected to comprise a larger share of the labor force. At the same time, the jobs expected to experience the most growth in the future will require higher levels of education. These trends may increase the demand for higher education.

- Between 1990 and 2005 women are expected to increase their share of the labor force from 45 percent to 47 percent; Hispanics are expected to double their share of the labor force from 8 percent to 16 percent.

The National Outlook: Economic Conditions Affecting Higher Education

We are faced with a national budget crisis; higher education funding is either experiencing a decline or making little if any gains. At the federal level we have a considerable deficit, coupled with stable appropriations for postsecondary education.

At the state level, higher education appropriations are declining and several states have experienced mid-year cuts. These trends are further felt at the institutional level due to the reduced revenues from governmental sources.

In this section we review current and projected economic conditions that affect the fiscal environment for higher education institutions.

GROSS NATIONAL PRODUCT

The Gross National Product (GNP) measures the value of goods and services in the economy. During the 1990s the GNP is projected to grow at a much slower rate than during the 70s and 80s. Total GNP in 1990 stood at $5.5 trillion (NCES, 1991).

- Between 1990 and 2005, the GNP is projected to grow at an annual rate of 2.3 percent; in comparison, between 1975 and 1990, the annual rate of growth was 2.9 percent (Kutscher, 1991).

- In 1990, the United States spent 2.7 percent of its GNP on higher education. The share of GNP spent on higher education has been relatively stable over the last few years (figure 1).

INFLATION

- The Consumer Price Index (CPI) measures the percentage change in the costs of living. Inflation in the CPI was 4.8 percent in 1990 and dropped to 3.1 percent in 1991.

- The Congressional Budget Office (CBO) predicts the CPI will increase slightly to 3.3 percent in 1992, and to 3.6 percent the following year, and remain at that level through 1997.

HIGHER EDUCATION PRICE INDEX

The Higher Education Price Index (HEPI) measures average changes in the cost of goods and services that colleges and universities purchase. Since 1982, increases in the HEPI have outpaced inflation, as measured by the CPI:

- The annual change in the HEPI decreased from almost 11 percent in 1981 to a low of 4.1 percent in 1987; however, in 1990 it increased to 6 percent (figure 2).

- In 1990, according to the HEPI, colleges and universities paid 41 percent more for goods and services than they did in 1983.

FEDERAL BUDGET

- According to the Congressional Budget Office, in fiscal year (FY) 1991 the federal deficit reached $269 billion, 4.1 percent of the GNP. The deficit is estimated to increase to $399 billion by FY 1992, then decline steadily until FY 1996, when it is projected to reach $178 billion. This will be followed by an upsurge in FY 1997, when the deficit is projected to reach $226 billion (Congressional Budget Office, 1992).

- In FY 1991, federal discretionary spending stood at $532 billion; in FY 1992, discretionary spending is expected to total $547 billion.

- Since the mid-sixties, discretionary spending as a percent of the GNP has declined steadily. However, from FY 1988 to FY 1991, it held steady.

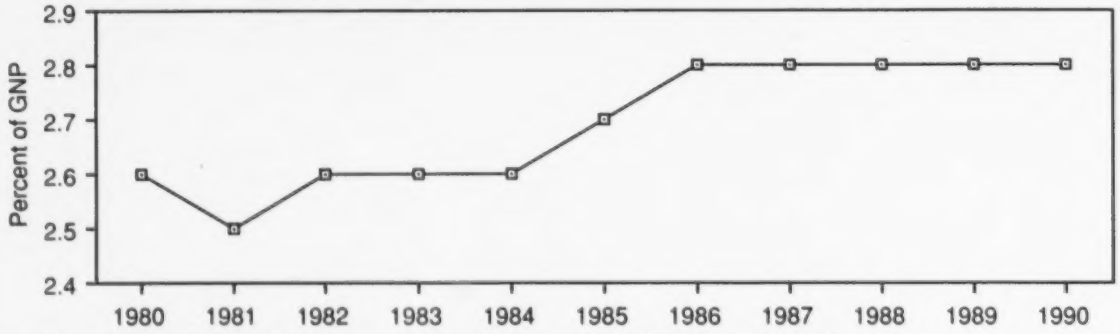
- In FY 1991, more than half of discretionary spending ($317 billion) will go for defense.

  — Domestic and international spending comprised 41 percent of discretionary spending in FY 1991 ($196 billion and $19 billion, respectively).

- In FY 1992, defense discretionary spending is expected to decline to $313 billion, while both domestic and international discretionary spending will increase to $214 billion and $20 billion.

Figure 1

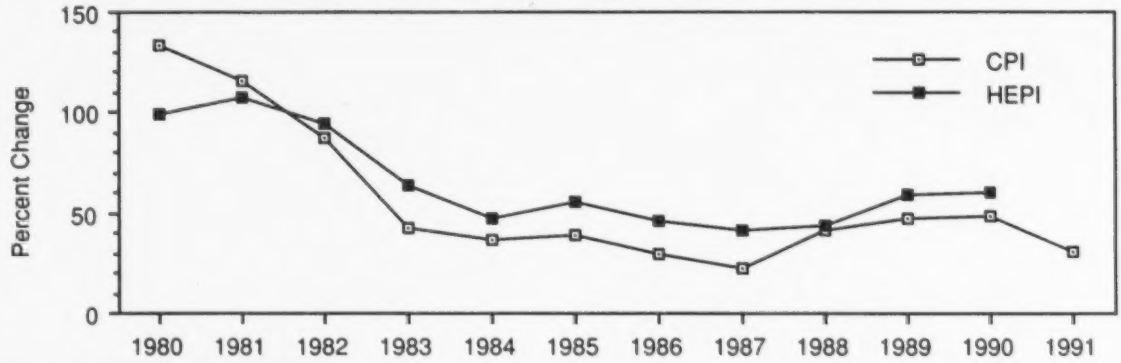
Total Expenditures for Higher Education as a Percent of GNP, 1980-1990



National Center for Education Statistics, *Digest of Education Statistics, 1991.* (Washington, D.C.: GPO), p. 33.

Figure 2

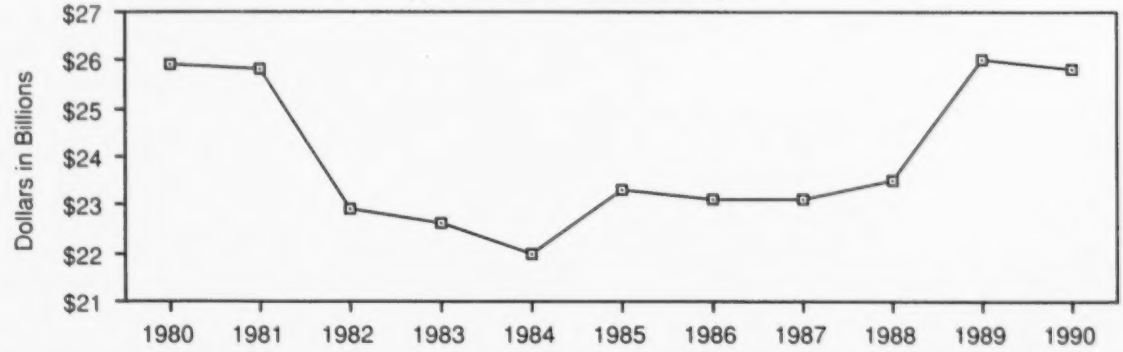
Changes in CPI and HEPI, Fiscal Years 1980-1990



Note: Data for HEPI is not available for 1991.
Sources: Congressional Budget Office, *The Economic Budget Outlook: Fiscal Years 1992-1996* (Washington, D.C.: GPO).
Research Associates of Washington, *Higher Education and Price Indexes: 1990 Update* (Washington D.C.: Research Associates, 1991).

Figure 3

Federal Appropriations for Postsecondary Education, FY 1990 to FY 1991
(in constant 1990 dollars)



Note: Data includes federal funds for postsecondary education tied to appropriations and federal support for research at educational institutions.
Source: National Center for Education Statistics, *Federal Support for Education: Fiscal Year 1980-1990* (Washington, D.C.: NCES, 1991), p. 39.

- The share of the federal budget for discretionary spending declined during the 1980s; in FY 1981, discretionary spending comprised 23.8 percent of the budget compared to an estimated 15.3 percent in FY 1992.

  — In FY 1981, education comprised 2.5 percent of discretionary spending and declined to an estimated 1.8 percent in FY 1992.

Federal Appropriations for Postsecondary Education

- Overall, total federal appropriations for all of education declined between FY 1980 and FY 1990, from $53.3 billion, in constant dollars, to $50.5 billion (NCES, May 1991).

- Federal appropriations for postsecondary education held steady during that decade at approximately $26 billion in constant dollars (figure 3).

- However between 1980 and 1985, federal appropriations for postsecondary education decreased by 12 percent in constant dollars (from $26 billion to $23 billion).

- Federal appropriations for postsecondary education, exclusive of funds for university research, declined by 25 percent between FY 1980 to FY 1990, from $17 billion to $12.8 billion (NCES, 1991).

  — Between FY 1989 and 1990, these funds fell by 5 percent in constant dollars, from $13.5 billion to $12.8 billion.

STATE EXPENDITURES

During the last several years, higher education has not fared well in a tough state fiscal environment. Higher education is losing ground in relation to overall general revenue funds and experiencing a reduction in state support. Many predict that economic conditions will worsen.

- In FY 1992, total state higher education appropriations stood at $40.1 billion, down from $40.8 billion in FY 1991.

- On average, in FY 1990 approximately 6.9 percent of state budgets was devoted to higher education; in FY 1985, 7.4 percent of state budgets was allocated to higher education (Sweeney, 1992).

- State appropriations for higher education spending have declined. Between fiscal years 1991 and 1992, the average budget increase for state higher education funds was approximately 1.4 percent, over the same period, the rate of inflation was 3.1 percent (Sweeney, 1992).

- In FY 1992, nineteen states enacted mid-year higher education budget cuts, with the average cut at 4.2 percent.

- The future portends gloomy prospects for higher education in the states. Among 47 states surveyed, almost half (20) expected future economic conditions to worsen.

REVENUES AT PUBLIC INSTITUTIONS

- In 1987-88, total current fund revenues at public institutions stood at $74.8 billion.

- In FY 1991 total current fund revenues for public institutions were estimated to be $95.3 billion (NCES, 1991).

- The share of revenues from state government for public institutions has declined somewhat over the years; between 1980 and 1987, the proportion of current fund revenues provided by the states declined from 46 percent to 43 percent.

REVENUES AT INDEPENDENT INSTITUTIONS

- Current fund revenues at four-year independent institutions were estimated at $52.5 billion in FY 1991.

INSTITUTIONAL CONDITIONS

The 1991 *Campus Trends* survey showed that the financial problems facing colleges and universities are widespread (El-Khawas, 1991):

- Thirty seven percent of institutions indicated that their FY 91 operating budgets either decreased or did not keep up with inflation.

- Mid-year budget cuts were reported by 45 percent of all colleges and universities, including:

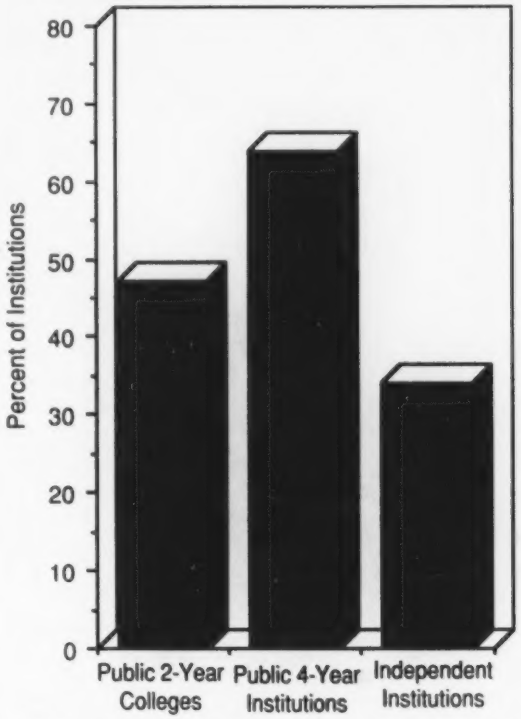
  — 64 percent of public four-year institutions;

  — 47 percent of public two-year colleges; and

  — 34 percent of independent colleges and universities (figure 4).

Figure 4

Institutions with Mid-Year Budget Cuts



Source: Elaine El-Khawas, *Campus Trends, 1991*, (Washington, D.C.: American Council on Education, 1991), p. 2.

Ability to Pay for College

The ability of families to pay for a college education is reflected in several economic indicators, such as median family income, per capita disposable income, rate of savings and the availability of student aid.

STUDENT AID

During the 1980s, the federal government's share of aid has declined while institutions have increased their share.

- In academic year 1990-91, total available student aid stood at $27.9 billion, a 4 percent increase over the previous academic year. However, when adjusted for inflation, the total amount declined by almost 2 percent (College Board, 1991).
- During the decade 1981 to 1991, the share of student aid provided by the federal government declined from 85 percent to 75 percent.
- At the same time, the share of student aid provided by institutions increased from 10 percent to 18 percent.
- The proportion of aid provided by state funds increased slightly, from 5 percent to 7 percent.
- In 1990-91, the Guaranteed Student Loan program[1] was the largest single source of aid ($12.4 billion), representing 45 percent of all available aid.
- Pell grant funding did not keep pace with inflation between 1990 and 1991, with a decline in purchasing power of $118 million.

FAMILY INCOME

Median family income has declined.

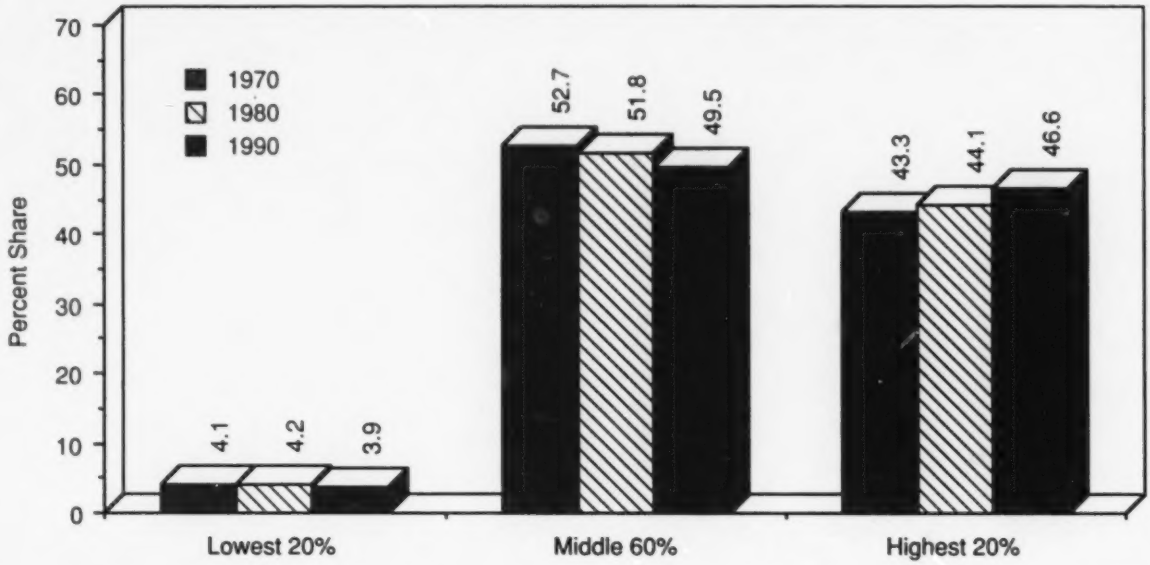
- In 1990, median family income was $35,353; after adjusting for inflation, this represents a 2 percent decrease from the 1989 figure of $36,062 (Census, 1991).
- From 1985 to 1990, after adjusting for inflation, median family income increased 5 percent, from $33,346 to $35,353.
- Female-headed families with no husband present had the lowest median income in 1990: $19,528.
- In 1990, median family income varied considerably by race and ethnicity. White families had a median income of $36,915, compared with $23,431 for Hispanics and $21,423 for African Americans.
- Between 1989 and 1990, African American families' median income held steady, while the income of Hispanic families declined by 5 percent. White families experienced a 3 percent decline in their incomes during this period.

Lower-income and middle-income households are losing ground. The distribution of income has shifted.

- For example, in 1980, the richest households held 44.1 percent of the aggregate income, ten years later, they received a 46.6 percent share of aggregate income (figure 5).
- In comparison, households in the middle income range received 51.8 percent of the aggregate income in 1980, but only 49.5 percent in 1990.
- Households with the lowest incomes received 4.2 percent of the aggregate income in 1980 and 3.9 percent in 1990.

Figure 5

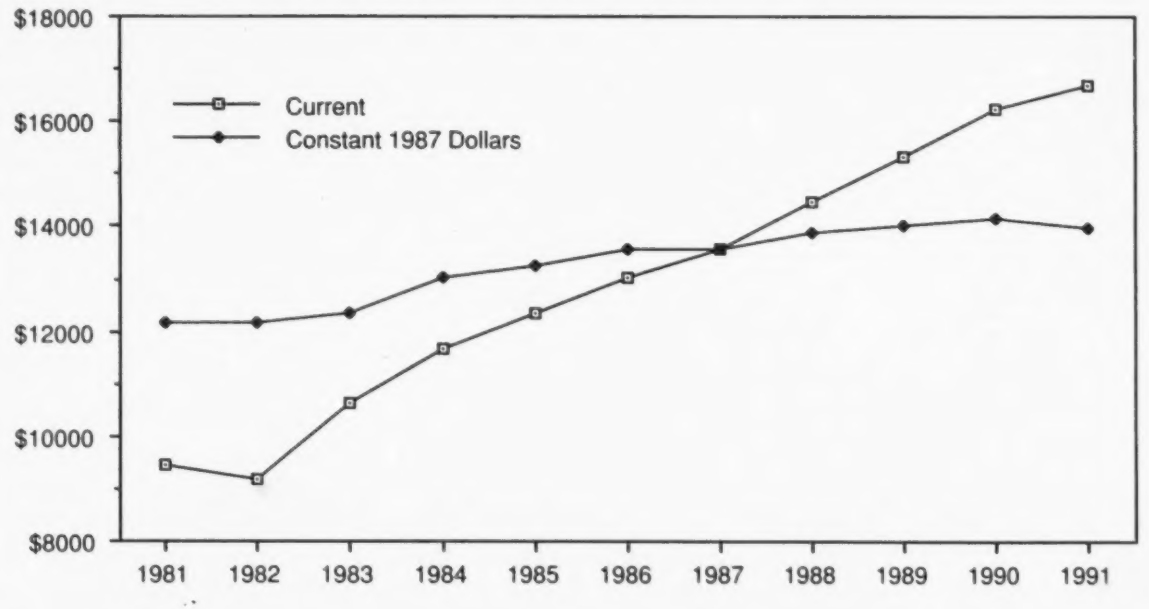
Families Share of Aggregate Income by Quintile: 1970, 1980, and 1990



Source: U.S. Bureau of the Census. Current Population Reports Series P-60, No 174, *Households, Families,and Persons in the United States: 1990* (Washington, D.C.: 1991), p. 7.

Figure 6

Per Capita Disposable Income, Current and 1987 Dollars



Source: Council of Economic Advisers, Economic Indicators (Washington, D.C.: GPO, 1992), p. 6.

Factors which contributed to the disparities in the share of income include: sharp increases in capital gains income by wealthy households; reductions in government benefits programs (e.g., AFDC); and the wage and salary gap between high earners and other Americans (Shapiro and Greenstein, 1991).

DISPOSABLE INCOME AND SAVINGS

- In 1991, per capita disposable income was $16,693 in current dollars, up 3 percent over the 1990 figure of $16,236. However, when adjusted for inflation, per capita disposable income is down slightly, by 1 percent (figure 6).
- During the decade 1981 to 1991, per capita disposable income increased by 15 percent in constant dollars (from $12,156 to $13,987).
- From 1986 to 1991, per capita disposable income was up by only 3 percent when adjusted for inflation (from $13,552 to $13,987).
- Savings as a percentage of disposable income is generally very modest; individuals today save less of their income than they did 10 years ago. In 1991, savings represented 5 percent of disposable income. By contrast, in 1981, on average 9 percent of a person's income went to savings (figure 7).

Future Labor Market Trends

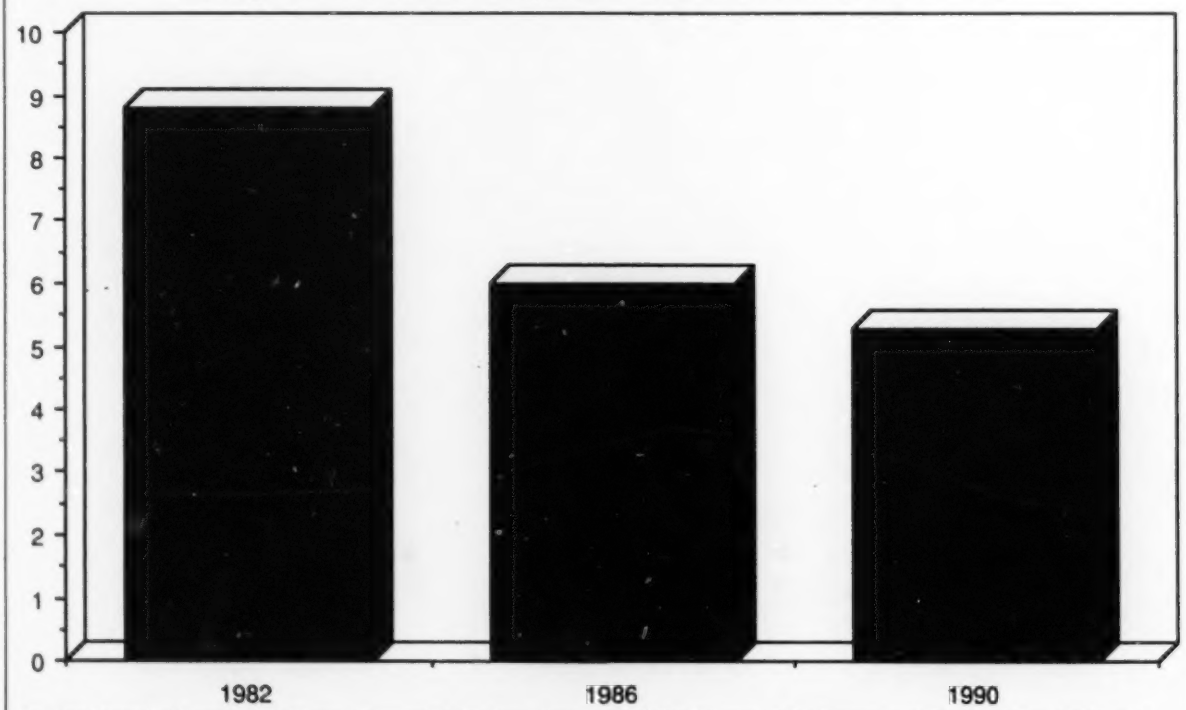
Projections indicate that the labor market will experience growth during the period 1990 to 2005. However, it will be at a much slower pace than the previous fifteen-year period.

- According to the Bureau of Labor Statistics (Silvestri and Lukasiewicz 1991), 26 million jobs will be added to the labor market between 1990 and the year 2005. Overall, the number of jobs in the labor market will grow by 20 percent.
- In comparison, between 1975 to 1990, the number of jobs in the labor market grew by 33 percent.
- However, the rate of labor force growth is expected to slow appreciably. Between 1975 and 1990, the labor force grew at an annual rate of 1.9 percent, compared with the 1.3 percent annual growth rate predicted for the period between 1990 and 2005.

The major occupational groups projected to show faster than average rates of growth from 1990 to 2005 are: technical and related support and executive, administrative, and managerial, and professional speciality. Generally, these occupations require some higher education.

Figure 7

Savings As A Percent of Disposable Income, 1982, 1986, and 1990



Source: Council of Economic Advisers, *Economic Indicators, January 1992* (Washington, D.C.: Government Printing Office, 1992), p. 6.

- In 1990, these occupations comprised one-fourth of total employment. Between 1990 and 2005, they are expected to account for 41 percent of the increase in employment (Kutscher, 1991).
- Occupations requiring postsecondary education are expected to increase above-average. During the period 1990 to 2005, professional speciality occupations, such as lawyers, engineers and natural scientists, are expected to increase by 32 pecent.

In contrast, occupations with a large proportion of workers who have only a high school diploma are expected to experience the least growth, or even a decline.

- For example, during the period 1990 to 2005, financial records processing occupations are expected to decline by 4 percent; in 1990, the highest level of education was a high school diploma for more than half of the individuals working in this occupation (Silvestri and Kutscher, 1991).

PARTICIPATION IN THE LABOR FORCE

Generally, labor force participation is expected to continue increasing from 1990 to 2005, although at a slower rate than 1975-1990.

- Between 1990 and 2005, the labor force participation rate is projected to increase from 66 percent to 69 percent. However, from 1975 to 1990, labor force participation rose from 61 percent to 66 percent (table 1).

The slower rate of increase in the labor force participation can be attributed to two factors: the aging of the population and a slower rate of participation by younger women (Fullerton, 1991).

LABOR MARKET SHARES

The labor force of the 90s and beyond will be more diverse. Women and minorities are projected to comprise a larger component of the labor force (Bureau of Labor Statistics, Fall 1991).

Key projected trends between 1990 and 2005 are:

- Women will comprise a larger share of the labor force, going from 45 percent to 47 percent;
- African Americans, who represented 11 percent of the labor force in 1990, are expected to represent 13 percent by 2005;
- Hispanics are expected to more than double their share of the labor force during this period, increasing from 8 percent to 16 percent;
- Asians and others are expected to increase their share from 3 percent to 6 percent; and
- White non-Hispanics will comprise a smaller share of the labor force in 2005 than in 1990 declining from 79 percent to 73 percent.

Table 1

Civilian Labor Force Participation Rate, Selected Characteristics, 1975, 1990 and 2005

	Participation Rate		
Group	**1975**	**1990**	
Total	61.2	66.0	
Men	77.9	76.1	
Women	46.3	57.5	
White	61.5	66.8	
Men	78.7	76.9	
Women	45.9	57.5	
African Americans	58.8	63.3	
Men	71.0	70.1	
Women	48.7	57.8	
Asian and other[1]	62.4	64.9	
Men	74.8	74.2	
Women	51.3	56.7	
Hispanics[2]	(3)	67.0	
Men	(3)	81.2	
Women	(3)	53.0	

1 The Asian and other group includes: Asian and Pacific Islanders, American Indians and Alaskan Natives
2 Persons of Hispanic origin may be of any race
3 Data on Hispanics was not available before 1980

Notes: The data is for persons 16 years and older. Data for the year 2005 is based on moderate growth projections.

Source: Howard N. Fullerton Jr., "Labor Force Projections: The Baby Boom Moves On," *Monthly Labor Review*, November, 1991, (Washington, D.C.: BLS), p. 34.

IMPLICATIONS

The current and future trends affecting the economic conditions of colleges and universities, the affordability of colleges and universities for families, and the labor market trends imply that the future will possibly be marked by the opportunity for growth coupled with fiscal constraints.

The economic indicators reviewed and analyzed in this policy brief indicate that the current and future trends pose some formidable challenges for higher education as a whole. However, these challenges also afford some opportunities for higher education to become more responsive to the changing economic environment.

The current trends and projections on the future labor force indicate that the demand for higher education may be increased through the restructuring of the labor market. According to the Bureau

of Labor Statistics (BLS), the most significant finding of the labor market projection is a continuing above-average growth rate for jobs that require higher levels of training. The occupations expected to have the most growth are ones for which at least some postsecondary education is required.

As noted in this paper, another important change in the labor market is that the labor force is expected to be more diversified. Minorities and women are expected to comprise a significantly larger share of the labor force. However, minority groups are still less likely to have the necessary educational background to take advantage of the expected changes in the labor market. There are still important gaps between groups in terms of going to college. For example, in 1990, 39 percent of all white 18-to-24-year old high school graduates were enrolled in college, compared to 33 percent of African Americans and 29 percent of their Hispanic counterparts (Carter and Wilson, 1992).

Currently, African Americans and Hispanics are not well represented in the occupations that are expected to have the most growth. In 1990, African Americans comprised only 6 percent of the executive, administrative and managerial positions as did 4 percent of Hispanics. This occupational group however, is expected to increase by 27 percent between 1990 and 2005 (Silvestri and Lukasiewicz, 1991). These trends illustrate that there is a need for African American and Hispanics to achieve higher levels of education. If these current educational and occupational trends continue, African Americans and Hispanics will be unable to vie for the occupations expected to have the most growth in the next fifteen years. A golden opportunity will have passed these groups by.

Due to the increased levels of educational attainment for women over the years, they can expect to increase their share of occupations slated for above average growth. However, women's current position in the labor market is marked by underrepresentation in certain occupations (such as engineers, lawyers, and judges) and overrepresentation in some of the lower paying occupations. In 1990, women comprised 9 percent of lawyers in the labor force and 80 percent of administrative support positions (Silvestri and Lukasiewicz, 1991).

These trends affecting women and minorities indicate they may increase their demand for higher education if they are to compete for the occupations projected to have the most growth.

The economic trends affecting federal and state budgets illustrate that one of the challenges facing higher education institutions is how to address the increased demand for services from diverse populations while faced with declining resources.

As a result of financial constraints facing legislators we can expect their interests in accountability to increase. The federal interest in accountability is evident with the passage of the "Student-Right-to-Know-Act." In this piece of legislation, colleges and universities are required to measure student outcomes.

The current financial picture facing institutions also raises the issue of how to maintain funding for current programs. In addition, it certainly will limit funding for new programs. Colleges and universities have already experienced budget cuts. These financial trends will affect institution's curricula, personnel and enrollment.

In looking at the affordability issue it becomes clear that yet another challenge facing higher education is the question of whether parents will be able to afford a college education for their children. Low- and middle-income families have lost ground and median family income has dropped slightly. We are experiencing a middle income squeeze. In addition, per capita disposable income has declined in the last year and people save a smaller share of their income than even ten years ago. These trends, coupled with the fact that student aid funds have not kept up with inflation, indicate that a parent's ability to afford college may be threatened, particularly for the lower income and minority groups. These aforementioned economic trends and projections raise several other questions:

- How can institutions prepare to meet the needs of more diverse student populations? What strategies need to be developed to ensure the entry of these populations into higher education? What types of programs are most successful in retaining and graduating minority students? What mechanisms can be developed to encourage women into non-traditional fields?

- Will higher education institutions be able to maintain enrollments as the population changes? Will institutions in one region be affected more adversely than those in others?

- With fewer governmental funds available, how can institutions manage creatively without negatively affecting academic quality?

- Will the urgency of reducing the federal deficit limit funding for new federal programs and affect the funding of current education programs?

- With middle-income families getting a smaller share of the aggregate income, families saving less of their income, and the decline in median incomes, will college be affordable?

NOTE

1. This program includes Stafford Loans, Supplemental Loans for Students (SLS), and Parent Loans for Undergraduate Students (PLUS).

RESOURCES

1. The National Center for Education Statistics (NCES) annually publishes a compendium of education statistics; the most recent publication is the *Digest of Education Statistics, 1991*. This publication provides data on higher education trends including: higher education expenditures; enrollment by age, sex and race; number of institutions; degrees awarded; and other data collected by NCES through its various surveys. For further information, contact the Government Printing Office at (202) 783-3238.

2. The Census Bureau provides data on the median family income by race, ethnicity, level of education and family type, and on the share of aggregate income via its *Current Population Reports*. The data are reported annually in Money *Income and Poverty Status in the United States*, Series P-60. For further information call (301) 763-8576.

3. Several recent publications look at higher education and its impact on the economy. These include: Katharine H. Hanson and Joel Meyerson, eds., *Higher Education In A Changing Economy* (New York: American Council on Education & Macmillan Publishing Company, 1990); K. Scott Hughes, Carol Frances and Barbara J. Lombardo, *Years of Challenge: The Impact of Demographic and Workforce Trends on Higher Education in the Economy in the 1990s* (Washington, D.C.: National Association of College and University Business Officers, 1991); and Richard E. Anderson and Joel W. Meyerson, eds., "Financial Planning Under Economic Uncertainty," *New Directions for Higher Education*, Number 69, Spring 1990. (San Francisco, CA: Jossey-Bass, Inc., Publishers, 1990)

4. The Center for Higher Education Policy and Finance of The American Association of State Colleges and Universities (AASCU) conducts an annual budget and fiscal survey. This survey asks questions on current and expected future economic conditions in the states and their effect on higher education. For further information contact Robert Sweeney at (202) 293-7070.

5. Every other year the Bureau of Labor Statistics develops projections that include data on the labor force by age, sex, race/ethnicity; growth in the real gross national product (GNP) by major demand category; and changes in employment by occupation. These projections are usually published in a special issue of the *Monthly Labor Review*. For further information, contact the Bureau of Labor Statistics at (202) 272-5075.

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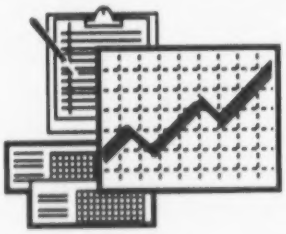

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